

APPENDIX J

Environmental Literacy Resources Relevant to the Balls Ferry Research and Education Center

(hyperlinked)

Environmental Literacy Resources Relevant to the Balls Ferry Research and Education Center

For the past 40 years, as modern society has grown increasingly removed from the natural world, an effort has been underway to improve “environmental literacy.” Environmental literacy is a term used to describe a person’s capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore or improve the health of those systems. In 1968, Charles Roth began work to define and develop a continuum of environmental literacy. The [North American Association for Environmental Education \(NAAEE\)](#) was established shortly thereafter to bring together people were giving serious thought to how people become literate concerning environmental issues. NAAEE now operates [EE-Link](#), a searchable database that organizes 5,400 links to environmental education resources in 300 categories. In 2000, NAAEE identified four aspects of advancing environmental literacy:

1. Developing inquiry, investigative, and analysis skills.
2. Acquiring knowledge of environmental process and human systems.
3. Developing skills for understanding and addressing environmental issues.
4. Practicing personal and civic responsibility for environmental decisions.

This continuum forms the basis of most environmental literacy efforts around the world.

California’s Education and Environment Initiative

In 2003 and 2005, California passed landmark legislation promoting environmental literacy statewide.¹ The [Education and Environment Initiative \(EEI\)](#) mandates the development of a unified education strategy to bring education about the environment into California’s primary and secondary schools.

The California Environmental Protection Agency and the California Integrated Waste Management Board are actively engaged in implementing the legislation. Other key partners include the State Board of Education, the Office of the Secretary for Education, the Curriculum and Supplemental Materials Commission, the State Department of Education, and the California Resources Agency (including CDFG). These entities have now adopted [Environmental Principles and Concepts](#) and are in the process of integrating environmental concepts into all aspects of K-12 education.

The EEI Curriculum:

- Is an environment-based curriculum rather than an environmental education curriculum.
- Is designed to teach students about their relationship with the environment and how humans interact with natural systems.
- Is designed to teach mastery of select California academic standards.
- Is aligned with instructional materials adopted by the California Department of Education (the 2005 History/Social Science adoption and the 2006 Science adoption).
- Gives teachers “Extension Ideas” for linking their lessons with local resources, including environmental education providers, industry, and/or agencies in their area.

¹ AB 1548 (Pavley, Chapter 665, Statutes of 2003-PDF) and AB 1721 (Pavley, Chapter 581, Statutes of 2005-PDF).



INTERNAL RESOURCES

CDFG-Linked Environmental Literacy Programs

CDFG Staff Resources

[CDFG Education and Outreach Staff](#) are available to assist with environmental and outdoor education. In addition, other regions have established special programs for involving [volunteers](#). CDFG also published a [quick guide for working with volunteers](#) in its 2005 newsletter. The CDFG Volunteer Coordination Handbook is available on the CDFG Intranet (CDFG 2003c).

Project WILD

Founded in 1983, [Project WILD](#) is administered by the [Council for Environmental Education](#), cosponsored by the Western Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service (USFWS). Project WILD materials assist youth educators, formal and non-formal, in guiding young people to develop critical thinking skills — skills that help them evaluate behavior and actions that may benefit or harm the wildlife and environment.

In California, Project WILD is sponsored by CDFG and activity guides are available without charge through workshop attendance. Workshops provide hands-on training and curricula specially designed for educators of kindergarten through high school youth. Project WILD is [correlated](#) with the Environmental Principles and Concepts of the EEI Model Curriculum as well as with California Content Standards for Science, English Language Arts, and Social Science. General K-12 activity guides focus on understanding wildlife and habitats while the WILD Aquatic helps students understand watersheds and water quality monitoring. Sustain Wildlife addresses investigations and decision making and is correlated with science and civics curricula for grades 9-12.

Project WET

Established in 1990, [Project WET \(Water Education for Teachers\)](#) facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources through the dissemination of classroom-ready teaching aids and the establishment of internationally sponsored Project WET programs. In addition to publishing materials and lesson plans for teachers and for children, Project WET provides leadership training and capacity building courses, seminars, and workshops.

Project Learning Tree

One of the first curricula of its kind, [Project Learning Tree® \(PLT\)](#) is a multi-disciplinary environmental education program for educators and students in pre-kindergarten through grade 12. Established in 1976 by the Council for Environmental Education and the American Forest Foundation, its network consists of 3,000 grassroots volunteers and more than 120 state coordinators that work with formal and informal educators, school staff, state agencies, foresters, businesses, civic organizations, museums, nature centers, and youth groups to provide professional development programs. PLT meets state and national education standards. Its curriculum materials provide tools to bring the environment into the classroom and students into

the environment. Topics range from forests, wildlife, and water, to community planning, waste management and energy.

Classroom Aquarium Education Project

CDFG established the [Classroom Aquarium Education Project](#) (known variously as Salmonids/Trout/Steelhead in the Classroom and the Salmon and Trout Education Program) to provide a hands-on project for hatching fish in a classroom aquarium. Instructors and their students set up an aquarium in the classroom, receive fish eggs under a special CDFG permit, and observe the fish as they hatch and develop. The experience may culminate in a field trip to a local stream or river where the fish are released.

Hunting Education and Outreach

[California Hunter Education Program](#). In a continued effort to reduce firearm accidents, the State of California requires all first time resident hunters, regardless of age, to complete hunter education training or pass a comprehensive equivalency test before purchasing a hunting license. CDFG conducts training throughout the state. Each year approximately 30,000 students complete the state's ten-hour minimum hunter education course.

[Game Bird Heritage Special Hunts Program](#). Special Hunts are education and outreach programs jointly sponsored by CDFG and other public or private entities. These hunts focus on youth, women, people that are mobility impaired, and other underserved populations.

Youth in the Outdoors

[Youth in the Outdoors](#). YO is a partnership to facilitate the conservation, enhancement, and restoration of our fish and wildlife and habitats through the education and participation of youth in California's outdoor heritage.

Other CDFG Education and Outreach

[California Fishing Passport book](#)

[California Finfish and Shellfish Identification book](#)

[Online Fishing Guide](#)

[TripTracks Fishing Logbook](#)

[California Fishing Passport Awards](#)

[My First Fish Award](#)

[National Archery in the Schools Program](#)

EXTERNAL RESOURCES

California Environmental Literacy Networks and Clearinghouses

California Environmental Education Interagency Network

Formed in 1993, the [California Environmental Education Interagency Network \(CEEIN\)](#) is a consortium of government departments and agencies committed to develop, enhance, and promote environmental education efforts throughout California. CEEIN operates through an MOU between the California Department of Education, California Environmental Protection Agency, the California Resources Agency (including CDFG), and the Department of Food and Agriculture. It was restructured in 2004 to provide greater leadership with respect to the EEI and to strengthen its ability to assist member agencies in sharing resources, programs and materials to improve environmental literacy. Among its recent accomplishments are providing assistance with the [Curricula and Compendia Project](#) (topical compilations containing descriptive evaluations of high quality, supplemental, environmental education curricula for kindergarten through grade twelve) and support for the California Regional Environmental Educators Community (CREEC) Network.

California Regional Environmental Educators Community Network

The [California Regional Environmental Educators Community \(CREEC\) Network](#) is an educational project supported by the California Department of Education in collaboration with state, regional and local partners. Its [online, searchable resource directory](#) includes over 1,000 environmental education providers and over 2,000 programs/resources available to educators in California. There are 20 CREEC coordinators in 13 regional offices throughout California that provide environmental education activities and exhibits, funding opportunities, and teacher professional development opportunities.

California Department of Education, Environmental Education Program

Funded through the Environmental License Plate Program, the California Department of Education's [Environmental Education Program](#) provides online information regarding current environmental education resources, special events, grant opportunities, and a state plan for environment-based education through its professional development services.

The GLOBE Program

World Wide Science Projects And Monitoring Of Earth Systems

[Global Learning and Observations to Benefit the Environment \(GLOBE\)](#) is a hands-on, primary and secondary school-based science and education program operated around the world. GLOBE's vision promotes and supports students, teachers and scientists to collaborate on inquiry-based investigations of the environment and earth systems working in close partnership with NASA and the National Science Foundation's Earth System Science Projects in study and research about the dynamics of earth's environment.

For students, GLOBE provides the opportunity to learn by:

- Taking scientifically valid measurements in the fields of atmosphere, hydrology, soils, and land cover/phenology, depending upon their local curricula
- Reporting their data through the Internet
- Publishing their research projects based on GLOBE data and protocols
- Creating maps and graphs on the free interactive Web site to analyze data sets
- Collaborating with scientists and other GLOBE students around the world

For educators, GLOBE provides assistance through:

- Training at professional development workshops
- Teacher's Guide, "how-to" videos, and other materials
- Continuing support from a help desk, scientists, and partners
- Contact with other teachers, students, and scientists worldwide

